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Soil Conservation Service

Montana Agricultural Experiment Station

Bozeman, Montana

MONTANA WATER SUPPLY OUTLOOK

Snowpack and Streamflow Forecasts as of May 15, 1985

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
Federal Bldg., Rm. 443
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Bozeman, MT 59715

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The Montana Water Supply Outlook is a publication of the U. S. Soil Conservation Service. The SCS administers the Cooperative Snow Survey Program in cooperation with other federal, state and private agencies, organizations, and individuals.

The report is prepared by SCS, Snow Survey and Water Supply Forecast Staff, Room 443, Federal Building, 10 East Babcock, Bozeman, Montana.

50 Soil and Water Conservation

Early snowmelt peaks expected

Streams began rising in early May but receded during cold weather around May 11-12. They are now on the rise again and are all expected to have reached their peak snowmelt runoff by the end of May. This is 2 to 3 weeks earlier than normal.

In the Missouri River headwaters, the Beaverhead and Ruby Rivers are figured to peak around May 20. The Big Hole should peak a couple of days later. The Madison, Gallatin and Missouri Rivers are forecast to peak about May 24 or 25.

In the Yellowstone River drainage, most major tributaries and the Yellowstone River above Billings are projected to peak the last few days in May.

West of the Divide, the Clark Fork and Blackfoot should peak about May 23 or 24, with the Bitterroot peaking a couple of days later. Major tributaries to the Flathead River are expected to reach their peak snowmelt runoff around May 28 or 29.

Most smaller streams with low elevation headwaters have already passed their peak snowmelt runoff and are receding.

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Water supply outlook deteriorates

Water supply outlook continues to deteriorate throughout the state. Mountain precipitation was well below average for the first half of May with most mountain sites reporting less than 1 inch of moisture. Also, snowmelt was above average due to prolonged periods of warm temperatures, and present snowpack varies from below average to no snow.

It appears that the temperature/melt/runoff sequence is 2 to 3 weeks earlier than normal. The combination of these factors with the winter's low snowpack indicates potential for severe water shortages this summer across the southern part of the state and minor to severe shortages in the more northern drainages. The most significant unknown factor at this time is the amount of precipitation that will occur in the last half of May and June.

Normally, May and June are large precipitation months. However, recent weather patterns have been warm and dry. If the warm and dry trend continues, demand for water will exceed the supply in many areas. If weather patterns become wetter, it would help relieve some shortages.

Even with near average precipitation, it could be a long summer for irrigators and other water users.

In many areas, snow exists only in the shaded or drifted areas on north and east facing slopes.

U. S. DEPARTMENT of AGRICULTURE
SOIL CONSERVATION SERVICE
CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

SNOW SURVEY DATA

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-80
MONTANA						
BADGER PASS BUTYL	6900	5/15/85	---	26.2	23.4	38.8
BANFIELD MOUNTAIN	5600	5/13/85	25	12.1	6.3	15.1
BANFIELD MTN BUTYL	5600	5/15/85	---	9.3	7.2	12.3
BAREE CREEK	5500	5/15/85	58	32.5	30.2	39.9
BAREE MIDWAY	4600	5/15/85	43	22.1	14.5	22.9
BAREE TRAIL	3800	5/15/85	0	.0	.0	.0
BARKER LAKES BUTYL	8250	5/15/85	---	10.8	16.4	16.2
BASIN CREEK METAL	7180	5/15/85	---	8.7	11.2	8.4
BEAGLE SPGS METAL	8850	5/15/85	---	.0	10.8	7.4
BLACK BEAR BUTYL	7950	5/15/85	---	27.7	36.0	35.3
BLACK PINE BUTYL	7100	5/15/85	---	.0	9.4	11.5
BLOODY DICK BUTYL	7550	5/15/85	---	.0	8.2	6.0
BOTS SOTS	7750	5/13/85	0	.0	14.7	7.6
BOULDER MTN BUTYL	7950	5/15/85	---	8.6	23.4	19.9
BOX CANYON METAL	6700	5/15/85	---	.0	.0	2.1
BRIDGER BOWL	7250	5/15/85	26	10.8	30.0	29.5
BRIDGER BOWL BUTYL	7250	5/15/85	---	8.1	29.5	27.2
CALVERT CREEK BUTYL	6430	5/15/85	---	.0	.0	.1
CAMP SENIA	7890	5/13/85	1	.3	17.6	9.7
CARROT BASIN BUTYL	9000	5/15/85	---	17.3	27.8	32.9
CASHE CREEK METAL	7800	5/15/85	---	.0	9.1	7.5
CLOVER MEADOW METAL	8800	5/15/85	---	7.2	23.7	17.6
COLE CREEK	7850	5/14/85	19	4.8	26.7	24.4
COLE CREEK BUTYL	7850	5/15/85	---	6.1	26.1	19.0
COMBINATION BUTYL	5600	5/15/85	---	.0	.0	.7
COPPER BOTTOM BUTYL	5200	5/15/85	---	.0	.0	1.7
COPPER CAMP BUTYL	6950	5/15/85	---	19.2	19.7	30.0
COPPER MOUNTAIN	7700	5/14/85	0	.0	8.9	9.0
CRYSTAL LAKE METAL	6050	5/15/85	---	6.9	12.4	7.9
DALY CREEK METAL	5780	5/15/85	---	.0	.0	3.7
DARKHORSE LK. METAL	8700	5/15/85	---	14.6	28.3	30.7
DEADMAN CREEK	6450	5/15/85	0	.0	--	4.3
DEADMAN CREEK BUTYL	6450	5/15/85	---	.0	.5	3.2
DIVIDE BUTYL	7800	5/15/85	---	1.0	13.0	8.1
DUPUYER CREEK BUTYL	5750	5/15/85	---	.8	.6	--
EAST BOULDER S	9250	5/11/85	53	22.0	30.0	33.5
EMERY CREEK BUTYL	4350	5/15/85	---	.8	.7	1.4
FISHER CREEK BUTYL	9100	5/15/85	---	26.4	30.7	39.6
FLATTOP MTN BUTYL	6300	5/15/85	---	22.2	34.6	49.6
FROHNER MDWS BUTYL	6480	5/15/85	---	.0	6.0	5.4
GARVER CREEK	4250	5/13/85	0	.0	.0	.3
GARVER CREEK BUTYL	4250	5/15/85	---	.0	.0	2.7
GIBBONS PASS	7100	5/16/85	12	6.2	22.0	19.9
GRAVE CREEK	4300	5/13/85	7	3.8	.0	7.8
GRAVE CRK BUTYL	4300	5/15/85	---	4.3	.0	2.1
HAND CREEK	5030	5/16/85	4	1.5	--	--
HAND CREEK BUTYL	5030	5/15/85	---	1.9	3.4	3.5
HAWKINS LAKE	6450	5/13/85	58	27.1	22.7	30.4
HAWKINS LAKE BUTYL	6450	5/15/85	---	23.1	21.8	30.9
HEART LAKE TRAIL	4800	5/15/85	30	14.2	--	11.2
HELL ROARING DIVIDE	5770	5/16/85	41	19.6	23.1	24.9
HOOOOO BASIN	6050	5/15/85	84	43.9	42.0	50.1
HOOOOO BASIN BUTYL	6050	5/15/85	---	38.7	36.5	41.9
HOOOOO CREEK	5900	5/15/85	80	42.4	38.6	46.0
INTERGAARD	6450	5/14/85	0	.0	5.7	6.2
KINGS HILL	7500	5/15/85	20	7.8	12.0	15.2
KRAFT CREEK METAL	4750	5/15/85	---	.0	.0	2.2
LAKEVIEW ROG. METAL	7400	5/15/85	---	.0	5.3	4.4
LEMHI RIDGE BUTYL	8100	5/15/85	---	.0	11.9	8.2
LICK CREEK	6860	5/15/85	0	.0	12.8	6.2
LICK CREEK BUTYL	6860	5/15/85	---	.0	8.3	4.6
LOWER TWIN METAL	7900	5/15/85	---	11.4	26.7	22.9
LUBRECHT FLUME BUTYL	4680	5/15/85	---	.0	.0	.0
MANY GLACIER BUTYL	4900	5/15/85	---	.0	.0	1.8
MAYNARD CREEK	6210	5/15/85	1	.5	12.2	12.4
MAYNARD CREEK BUTYL	6210	5/15/85	---	4.0	13.1	12.0
MONUMENT PEAK METAL	8850	5/15/85	---	15.2	19.6	30.2
MT LOCKHART BUTYL	6400	5/15/85	---	14.6	13.5	21.5
MULE CREEK METAL	8300	5/15/85	---	10.8	15.1	17.0
NEVADA CREEK METAL	6480	5/15/85	---	6.6	5.7	10.2
NEZ PERCE CMP BUTYL	5650	5/15/85	---	1.1	8.1	5.1
NOISY BASIN BUTYL	6040	5/15/85	---	40.6	55.6	40.4
N.FORK ELK CRK BUTYL	6250	5/15/85	---	.0	4.6	4.8
N.E. ENTRANCE BUTYL	7350	5/15/85	---	.0	.8	1.5
PICKET PIN D	9450	5/14/85	29	11.5	30.5	30.3
PICKFOOT CRK METAL	6650	5/15/85	---	.0	.0	4.7
PINE CREEK BUTYL	5930	5/15/85	---	18.9	14.8	20.9
PLACER BASIN F	8830	5/14/85	27	11.0	24.0	23.9
PLACER BASIN METAL	8830	5/15/85	---	8.5	21.2	21.5
POORMAN CREEK	5100	5/13/85	47	24.5	18.6	22.6
POORMAN CRK BUTYL	5100	5/15/85	---	24.7	17.3	23.3
PORCUPINE BUTYL	6500	5/15/85	---	.0	1.6	.4
RED MOUNTAIN	6000	5/16/85	12	5.5	10.6	15.0
ROCKER PEAK BUTYL	8000	5/15/85	---	9.8	12.7	18.6
SADDLE MTN BUTYL	7900	5/15/85	---	14.2	20.2	26.8
SHOWER FALLS BUTYL	8100	5/15/85	---	14.8	34.7	29.0
SILVER RUN	6630	5/13/85	0	.0	5.3	2.2
SILVER RUN BUTYL	6630	5/15/85	---	.0	.1	.0
SKALKAHO SUMMIT BTYL	7260	5/15/85	---	17.0	19.8	25.8
SKYLARK TRAIL METAL	6200	5/15/85	---	18.6	25.9	29.7
S.FK. SHIELDS BUTYL	8100	5/15/85	---	6.4	25.1	19.1
SPUR PARK BUTYL	8100	5/15/85	---	17.7	21.8	23.0
STAHL PEAK	6030	5/13/85	76	39.1	36.0	40.6
STAHL PEAK BUTYL	6030	5/15/85	---	33.7	33.1	37.2
STAR LAKE E	9650	5/14/85	69	30.5	39.5	52.0
TEPEE CREEK BUTYL	8000	5/15/85	---	3.6	14.8	11.5
TIMBERLINE CREEK	8850	5/13/85	26	7.3	22.2	18.7
TWELVEMILE BUTYL	5600	5/15/85	---	.0	3.4	6.4
TWIN LAKES BUTYL	6400	5/15/85	---	28.9	34.3	38.7
WALDRON BUTYL	5600	5/15/85	---	.0	.0	3.2
WARM SPRINGS BUTYL	7800	5/15/85	---	13.7	24.8	27.5
WEASEL DIVIDE	5450	5/13/85	64	32.6	21.2	30.8
WEST YELL'ST BUTYL	6700	5/15/85	---	.0	--	1.9
WHISKEY CREEK BUTYL	6800	5/15/85	---	8.3	10.4	9.7
WHITE MILL BUTYL	8700	5/15/85	---	19.5	23.0	25.1
WOOD CREEK METAL	5960	5/15/85	---	.0	.0	7.0

Snowpacks are nearly melted in many alpine areas.

AGENCIES AND ORGANIZATIONS COOPERATING IN MONTANA SNOW SURVEYS

GOVERNMENT AGENCIES

Canada
- Department of the Environment
  - Atmospheric Environment Service
  - Water Management Service
- British Columbia Ministry of Environment
  - Inventory and Engineering Branch, Hydrology Section
- Alberta Environment
  - Technical Services Division

Federal
- Department of the Army - Corps of Engineers
- Department of Agriculture - Forest Service
- Soil Conservation Service
- Department of Commerce - National Environmental Satellite Service
- National Weather Service
- Department of Interior - Bureau of Indian Affairs
- Fish and Wildlife Service
- Geological Survey
- National Park Service
- Bureau of Reclamation
- Department of Energy - Bonneville Power Administration

STATE AGENCIES
- Montana Conservation Districts
- Montana Department of Fish, Wildlife and Parks
- Montana Department of Natural Resources and Conservation
- Montana State University - Agricultural Experiment Station
- University of Montana - School of Forestry

PRIVATE ORGANIZATIONS
- The Anaconda Company
- Big Sky of Montana
- Butte Water Company
- Flathead Valley Community College
- Montana Power Company
- Pondera County Canal & Reservoir Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

U.S. GOVERNMENT PRINTING OFFICE 1985 593-046